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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,000	05/09/2007	Orhan Ustun	0115-062668	7851

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EXAMINER

JETTON, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3748

MAIL DATE	DELIVERY MODE
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02/16/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,000	Applicant(s) USTUN, ORHAN	
	Examiner CHRISTOPHER JETTON	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9,10,12,13,19-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) 12,19-21 and 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 9,10 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I in the reply filed on 12/02/2009 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kelly et al (US 4,107,928) in view Hawkins (US 3,888,084)**.

Regarding claim 9, Kelly (Fig 2) discloses an apparatus for converting thermal energy to another energy form comprising at least one heat input and accumulator module, each heat-input and accumulator module comprising: a device transmitting a heat-input (20), and an accumulator (25), the device (20) and accumulator (25) being connected to one another for the exchange of fluids (92), wherein the energy that can be built up as fluid pressure in the heat input and accumulator module can be converted to the other energy form by means of an energy conversion device (130), wherein the energy conversion device is a hydraulic motor which can be connected with a gear unit of the apparatus (Col 2 Lines 45-55), and wherein a pressure bottle (27) is provided for

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intermittent storage of pressurized hydraulic liquid, the heat (Col 2 Lines 57-60) being essentially absorbed in the pressurized hydraulic liquid, and the pressure bottle (27) is also provided for subsequent supply of the pressurized hydraulic liquid to the hydraulic motor for driving the hydraulic motor . Kelly fails to disclose the device transmitting a heat input is an internal combustion engine, the internal combustion engine being connected with the gear unit of the apparatus, and a plurality of pressure bottles.

However, Hawkins (Fig 1) teaches an apparatus for converting thermal energy to another energy form with a motor (31) connected with a gear unit (34-36), and a device transmitting a heat input is an internal combustion engine (10), the internal combustion engine (10) being connected with the gear unit (34-36) of the apparatus.

It would have been obvious to one of ordinary skill in the art to modify the heat source of Kelly's invention with the internal combustion engine heat input taught by Hawkins since Kelly suggests that waste heat from a broad range of sources are sufficient to operate the motor (Col 2 Lines 57-64). Kelly's thermal energy machine will perform its original function except heat will be supplied from the hot coolant of Hawkins internal combustion engine, and Kelly's motor will be mechanically linked to Hawkins' engine through a clutch (34-36). There is a reasonable expectation of success in this modification since the only substantial difference between Kelly's heat recovery system and Hawkins' heat recovery system is Kelly's working fluid remains a liquid throughout the entire cycle while the working fluid in Hawkins is vaporized and condensed.

Also, Kelly discloses the claimed invention except for a plurality of pressure bottles. It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to increase the storage capacity of pressurized hydraulic fluid with additional pressure bottles, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Regarding claim 10, Kelly (Fig 1) discloses a plurality of accumulator modules connected to a distribution unit, wherein the individual accumulator modules can be connected intermittently to the energy conversion device by means of the distribution unit (Col 4 Lines 4-20).

Regarding claim 13, Kelly discloses a heat exchanger (20) connected to the energy conversion device (130), but fails to disclose

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified **Kelly as applied to claim 9 above, and further in view of Barrett et al (US 4,586,338)**.

Regarding claim 13, the modified Kelly discloses a heat exchanger (20) connected to the energy conversion device (130), but fails to disclose the heat exchanger is connected to the heat-input transmitting device via a circulation pump.

However, Barrett teaches a heat exchanger (60) is connected to the heat-input transmitting device (12) via a circulation pump (18).

It would have been obvious to one of ordinary skill in the art to modify Kelly's invention with the circulation pump taught by Barrett since all the claimed elements were known in the prior art and one skilled in the art could have combined the elements

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as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER JETTON whose telephone number is (571)270-7108. The examiner can normally be reached on Monday through Friday, 7:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/

Supervisory Patent Examiner, Art Unit 3748

/CHRISTOPHER JETTON/

Examiner, Art Unit 3748

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